Allotment Assessment and Evaluation Report for
New Mexico Standards and Guidelines for Public Land Health
Flagstone (#880) – September 22, 2010

Permittee/Lessee		Authorization Number 3001556		
Livestock Use	Preference AUMs	Allotment 00880	Active 102	Suspended 0
	Period of Use / Kind of livestock	Allotment Flagstone	Number/Kind 9 Cattle	Season of Use 03/01 – 02/28
	Percent Public Land	AUMs are authorized at 100% public land		
Allotment Profile	Physical Description	Allotment 880 is located approximately 2 mile southwest of Ribera in San Miguel county, New Mexico. Flagstone allotment lies between Arroyo Chamizal and Arroyo del Pueblo. The allotment is comprised of flat uplands and steep escarpments dominantly covered with pinyon-juniper and an understory of perennial warm season grasses. Quarrying of rock has disturbed much of the allotment. Elevation ranges from 6100 to 6400 feet. Five soil types are identified within the BLM parcels. Soils within the parcels are: TR - Tuloso-Rock outcrop-Sombordoro association, steep. These soils consist of stony sandy and stony loams with rooting depths ranging from 8 to 20 inches. Parent materials are primarily derived from sandstone. Average annual precipitation is about 16 inches. Hazards for erosion are slight to moderate. Vegetation is characterized by pinyon, juniper, blue grama, hairy grama, sideoats grama, little bluestem and pinyon ricegrass. TS - Tuloso-Sombordoro-Rock outcrop complex moderately sloping. These soils consist of stony sandy and stony loams with rooting depths ranging from 8 to 20 inches. Parent materials are primarily derived from sandstone. Average annual precipitation is about 16 inches. Hazards for erosion are slight to moderate. Vegetation is characterized by pinyon, juniper, blue grama, hairy grama, sideoats grama, and pinyon ricegrass. UR - Ustorthents-Rock outcrop complex, very steep. This soil is stony with variable depths and texture. Parent materials of sandstone and shale comprise this soil. Average annual precipitation is around 16 inches. Vegetation is characterized by sideoats grama, pinyon, juniper and oak. VB - Vibo-Ribera association, undulating. These soils consist of sandy loams, with rooting depths over 60 inches. Parent materials of alluvial and eolian material derived from mixed		

<table>
<tr><td></td><td></td><td>sources comprise these soils. Average annual precipitation ranges between 16 and 20 inches. Hazards for erosion are moderate to high. Vegetation is characterized by pinyon, juniper, blue grama, sideoats grama, little bluestem, pinyon ricegrass and Indian ricegrass.

VC - Vibo-Rock outcrop complex, undulating. These soils consist of sandy loams, with rooting depths over 60 inches. Parent materials of alluvial and eolian material derived from mixed sources comprise these soils. Average annual precipitation ranges between 16 and 20 inches. Hazards for water erosion are moderate to high. Vegetation is characterized by pinyon, juniper, blue grama, sideoats grama, little bluestem, pinyon ricegrass and Indian ricegrass.</td></tr>
<tr><td></td><td>Land Status
Acreage</td><td><u>BLM</u> <u>State</u> <u>Private</u>
560 0 0</td></tr>
<tr><td></td><td>Management Objectives</td><td>The allotment is under a ‘Custodial’ (‘C’) management category. ‘C’ category allotments have evidence of a “not apparent” to “upward” long term trend, have no significant resource conflicts and have a low potential for improvement in vegetative production.</td></tr>
<tr><td></td><td>Key Forage Species</td><td>little bluestem, pinyon ricegrass, sideoats grama, blue grama, Indian ricegrass, hairy grama</td></tr>
<tr><td></td><td>Grazing System</td><td>Dormant season grazing (winter use)</td></tr>
<tr><td>Current Conditions / Management</td><td>Actual Use</td><td>Actual use reports were not submitted. Use was determined by billed AUMs.
<table><tr><th>AUMs</th><th>Year</th></tr><tr><td>108</td><td>2010</td></tr><tr><td>108</td><td>2009</td></tr><tr><td>108</td><td>2008</td></tr><tr><td>108</td><td>2007</td></tr><tr><td>108</td><td>2006</td></tr><tr><td>102</td><td>2005</td></tr><tr><td>102</td><td>2004</td></tr><tr><td>102</td><td>2003</td></tr><tr><td>102</td><td>2002</td></tr><tr><td>102</td><td>2001</td></tr><tr><td>102</td><td>2000</td></tr></table></td></tr>
<tr><td></td><td>Utilization</td><td>Due to the lack of staff, utilization studies have not been conducted. During the assessment visit it was determined that the allotment was receiving slight to moderate utilization.</td></tr>
<tr><td></td><td>Climate</td><td>The past water year (Oct. 1, 2009 – Sept. 30, 2010) the average temperature has been slightly below average (0 to 1 degrees Fahrenheit below average) and precipitation below average (0 to 3 inches below average). The winter was slightly drier (0 to 1.5 inches below normal) and was colder (3 to 4 degrees Fahrenheit below average). The spring was drier (0.75 to 1.5 inches below normal) and was colder (0 to 1 degrees Fahrenheit above average). This should provide below average plant growth for cool season plants. The summer precipitation was</td></tr>
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<tr><td></td><td></td><td>below average (0 to 1.5 below normal) and slightly warmer (2 to 3 above normal) which should provide below normal growth for warm season plants.

Global climate change resulting from increasing atmospheric CO_2 levels may accelerate rates of plant extinction and result in shifts in ecosystem structure (species diversity) and function. We anticipate that our monitoring efforts will track vegetation shifts allowing for management modifications to address local range impacts resulting from global climate change.</td></tr>
<tr><td></td><td>Trend</td><td>In 2010 monitoring transects and photo points were placed in the allotment to establish vegetation trend. The full findings are kept in the allotment file at the Taos Field Office, but are summarized below.
<table>
<tr><td>Plot #1</td><td>2010</td></tr>
<tr><td>Ground Cover</td><td>(%)</td></tr>
<tr><td>Bare Ground</td><td>39</td></tr>
<tr><td>criptogams</td><td>0</td></tr>
<tr><td>gravel</td><td>5</td></tr>
<tr><td>rock</td><td>0</td></tr>
<tr><td>litter</td><td>39</td></tr>
<tr><td>BOGR (Blue Grama)</td><td>13</td></tr>
<tr><td>MUTO (Ring Muhly)</td><td>1</td></tr>
<tr><td>PLJA (Galleta)</td><td>1</td></tr>
<tr><td>ARPU (Purple Threeawn)</td><td>1</td></tr>
<tr><td>Species Composition</td><td>(%)</td></tr>
<tr><td>BOGR (Blue Grama)</td><td>40</td></tr>
<tr><td>JUMO (Juniper)</td><td>44</td></tr>
<tr><td>PLJA (Galleta)</td><td>7</td></tr>
<tr><td>MUTO (Ring Muhly)</td><td>2</td></tr>
<tr><td>LYPH (Wolfstail)</td><td>1</td></tr>
<tr><td>ARPU (Purple Threeawn)</td><td>1</td></tr>
<tr><td>?PF1 (Unknown Forb)</td><td>1</td></tr>
<tr><td>PIED (Pinyon Pine)</td><td>1</td></tr>
<tr><td>BOCU (Sideoats Grama)</td><td>2</td></tr>
</table></td></tr>
<tr><td></td><td>Riparian</td><td>There is no riparian area within the allotment. Some riparian vegetation is present in arroyos with seasonal water flow, but surface water is only present for short periods of time after storms.</td></tr>
<tr><td></td><td>Wildlife</td><td>Seasonal home ranges in the allotment include those for deer, elk, bear, bobcat, fox, coyote, small mammals and reptiles, bats, raptors, turkey vulture, songbirds, and a variety of insects.

Some dietary overlap occurs between wildlife and cattle; however, best management practices would ensure that forage</td></tr>
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		production within this area can support both wildlife and livestock on a sustained basis.
	Threatened and Endangered Species	It is determined that there are no federally listed threatened or endangered species likely to be found in the subject allotment. There is no designated critical habitat for any species listed by the USFWS within the allotment. Special status species that are likely to be found on the allotment (seasonally) include bald eagle and ferruginous hawk.
Findings / Rationale for the New Mexico Standards for Public Land Health		A Rangeland Health Evaluation Matrix was completed on September 22, 2010. This evaluation matrix is from Technical Reference 1734-6 "Interpreting Indicators of Rangeland Health." The actual matrix forms are available within the allotment file. Below is a summation of the information gathered by the on site evaluation. Within the Rangeland Health Attributes are three different categories of indicators. The categories include; Soil and Site Stability, Hydrologic Function and Biotic Integrity. The percent of indicator score was created by multiplying an assigned value for departure from site descriptions/reference areas by the number of indicators at the level. Departure scores are categorized as: none to slight = 5, slight to moderate = 4, moderate = 3, moderate to extreme = 2 and extreme = 1. For example, if all indicators under Soil/Site Stability were rated none to slight (best condition), the equation would be 5(score)*10indicators=50/50*100 = 100% similarity, or what is expected based on an Ecological Site Description. Soil and Site Stability Four indicators were deemed None to Slight, five were deemed Slight to Moderate, one was deemed Moderate, zero were deemed Moderate to Extreme, and zero were deemed Extreme to Total. Rating: 86% Hydrologic Function Two indicators were deemed None to Slight, six were deemed Slight to Moderate, two were deemed Moderate, zero were deemed Moderate to Extreme, and zero were deemed Extreme to Total. Rating: 80% Biotic Integrity Five indicators were deemed None to Slight, four were deemed Slight to Moderate, zero were deemed Moderate, zero were deemed Moderate to Extreme, and zero were deemed Extreme to Total. Rating: 91%

		Overall Rating: 86%
	Upland Standard	*Upland ecological sites are in productive and sustainable condition within the capability of the site. Upland soils are stabilized and exhibit infiltration and permeability rates that are appropriate for the soil type, climate, and landform. The kind, amount and/or pattern of vegetation provides protection on a given site to minimize erosion and assist in meeting Sate and Tribal water quality standards.* This allotment is meeting the Upland Standard based on the above evaluation and information. Rills and pedestals are present, but not active. Water-flow patterns nearly match what is expected. Soil surface is somewhat resistant to erosion, but some soil loss has occurred. Past quarrying of rock has promoted erosion on the most southern portion of the allotment. No reclamation efforts are present. Restoration of quarry sites would prevent soil loss. Gullies show active erosion with intermittent vegetation.
	Biotic Communities Standard	*Ecological processes such as hydrologic cycle, nutrient cycle, and energy flow support productive and diverse native biotic communities, including special status , threatened, and endangered species appropriate to site and species.* This allotment is meeting the Biotic Communities Standard based on the above evaluation and information. Generally, vegetation and wildlife species are as expected for the site. Juniper trees are encroaching into open areas in the allotment. Juniper composition is higher than expected (44% by species and 25% of top canopy cover). The study site has a good mix of grass species with grasses occupying 16% of ground cover. Litter amount is also high, but a portion of that is due to residual left after fuelwood harvesting.
	Riparian Standard	*Riparian areas are in a productive, properly functioning and sustainable condition, within the capability of that site.* The Riparian Standard does not apply to this allotment. No riparian areas are present. However, some cottonwoods are present in arroyos with seasonal flows.
Conclusion		The New Mexico Standards for public land health are being met; therefore no Determination Document is warranted. Continued monitoring will help establish future trend. Reclamation of rock quarry sites would lessen the impact of erosion. It is recommended that the grazing lease be renewed for the next ten years without any changes.

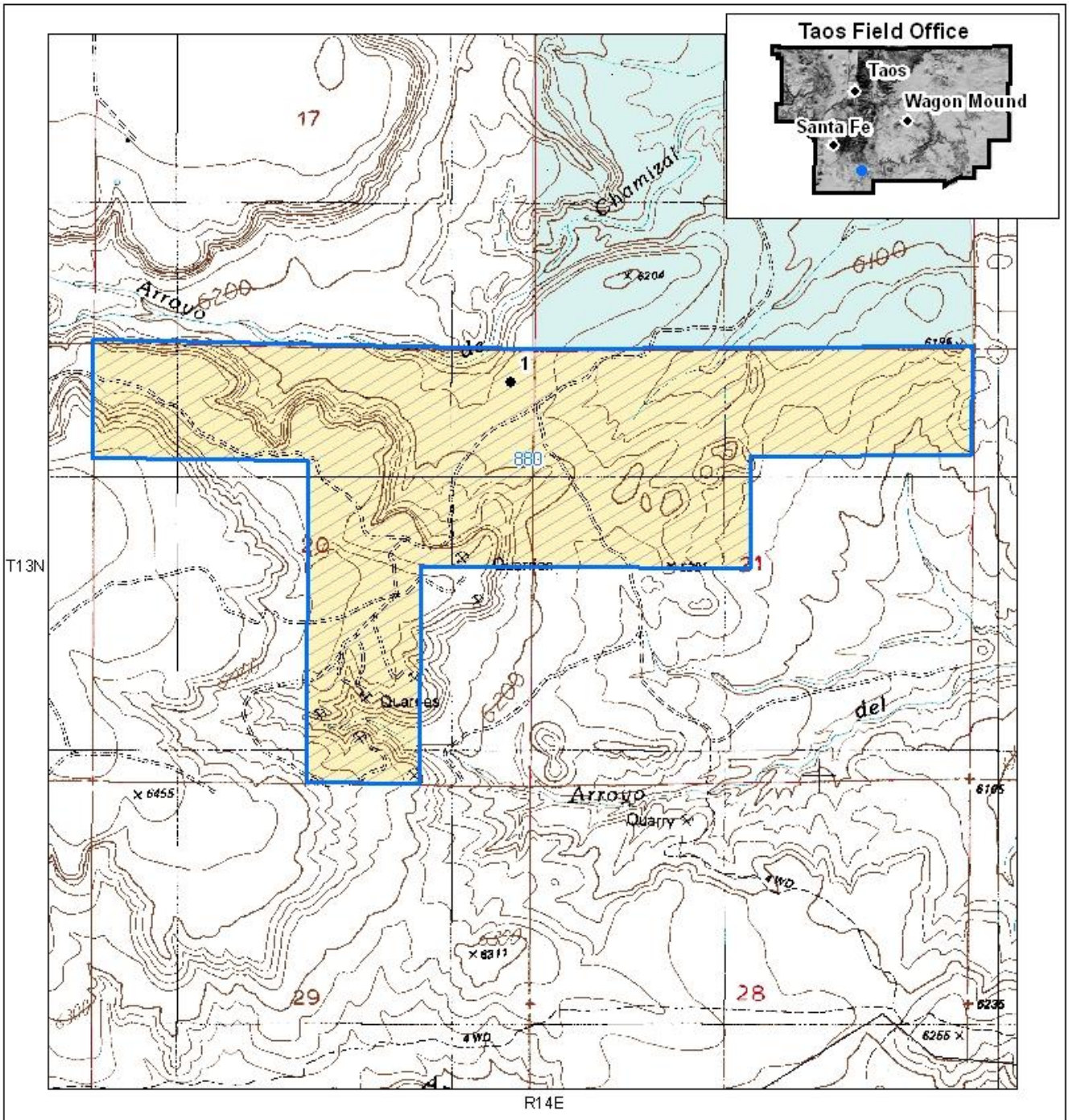
Consultation and Coordination

This Assessment and Evaluation Report has been sent or given to the affected permitee(s) / lessee(s), the interested publics and the following interdisciplinary team members for input and review:

Merril Dicks – Archeologist

Scott Draney – Department of Game and Fish
Greg Gustina – Fish Biologist
Pam Herrera-Olivas – Wildlife Biologist
Tami Torres – Outdoor Recreation Planner
Jacob Young – Rangeland Management Specialist
Paul Williams – Archeologist
Valerie Williams – Wildlife Biologist

This document was prepared by: Derek Trauntvein – Rangeland Management Specialist



Flagstone (880)

0 0.1 0.2 0.4 0.6 0.8 Miles

N W E S

Legend

- Monitoring Plots
- Allotment Boundary
- Bureau of Land Management
- State
- Private

7.5' Topos: Sena

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Tuesday February 15, 2011